

**REMARKS**

These remarks are in response to the Office Action mailed April 17, 2006.

Claim 41 has been canceled without prejudice to Applicants' right to prosecute the canceled subject matter in any divisional, continuation, continuation-in-part, or other application. Claim 54 has been amended to correct antecedent basis. No new matter is believed to have been introduced.

Applicants respectfully thank Examiner Doty for the courteous telephonic interview ("Interview") with Applicants' representative, Joseph Baker, on May 16, 2006. During the Interview the parties discussed the pending office action and the cited reference.

**I. CLAIM OBJECTIONS**

Claims 41 and 54 stand objected to for various informalities. Claim 41 has been canceled and claim 54 has been amended. Accordingly, the objections may be withdrawn.

**II. REJECTION UNDER 35 U.S.C. §102**

Claims 13, 16, 17, 21, 25-27, 41 and 49-53 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by Linford *et al.* (U.S. Patent No. 5,429,708). Applicants respectfully traverse this rejection.

The Office Action alleges,

Linford discloses a semiconductor substrate comprising providing an, *inter alia*, monocrystalline silicon-containing material 12 (col. 1, lines 17-21) having a porosity of not more than 30% (*nonporous* monocrystalline silicon-containing material has a porosity of less than 30%). . .

(See page 3, lines 8-11 of the Office Action; emphasis ours). Claim 13, upon which the remaining claims depends, recites that the substrate **has** a porosity of "not more than 30%". Thus, Linford *et al.* does not anticipate Applicants' claimed invention as Linford *et al.* teaches a non-porous material. Furthermore, the statement in the Office Action (see, above) is opposite the statement made in the Office Action mailed September 29, 2003, at page 6, lines 3-4:

"The prior art of Linford, as explained above, discloses each of the claimed features **except for indicating the porosity to have an upper limit of 30%.**"

(Emphasis added). Applicants submit that the Linford *et al.* fails to teach or suggest a substrate "having a .... porosity" but where the porosity has an upper limit of 30%. Thus, Linford *et al.* do not teach each and every element of Applicants' claimed invention. Accordingly, Linford *et al.* does not anticipate and the rejection may be properly withdrawn.

The Examiner has repeatedly cited Linford *et al.* for the alleged teaching of Applicants' claimed invention. For example, in the office action mailed May 20, 2004, the Examiner indicates that, "It is seen to be **inherent** that the organic layer changes the electrical property of the silicon-containing material. . ." (See, page 4, lines 4-5 of the Office Action mailed May 20, 2004; emphasis added). The current Office Action states,

It is seen to be **inherent** that the organic layer of Linford changes the electrical property of the silicon-containing material, wherein the electrical properties are selected from a group consisting of surface recombination velocity, carrier lifetime, electronic efficiency, voltage, contact resistance, and resistance of a doped region, in addition to those regarding the carrier lifetime. . . .

(See, e.g., page 4 and page 7). The Examiner than states:

See *In re Swinhart*, 169 USPQ 226, 229 (CCPA 1971) (where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that subject matter known to be in the prior art does not possess the characteristics relied on) and *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980) (the burden of proof can be shifted to the applicant to show that subject matter o the prior art does not possess the characteristic relied on whether the rejection is based on inherency under 35 USC 102 or obviousness under 35 USC 103).

(see, e.g., page 4). The Office Action then further elaborates on the reliance upon the **inherent characteristics** allegedly taught by Linford *et al.* Such reliance on inherency is misplaced.

The attached Declaration demonstrates that the reliance on the inherency of Linford *et al.* is misplaced and thus Linford *et al.* cannot anticipate the claimed invention based upon inherency under §102.

"Under the principles of inherency, if *the prior art necessarily functions in accordance with, or includes, the claimed limitations*, it anticipates." (*Atlas Powder Co. V. Ireco Inc.* 190 F. 3d 1342 (Fed. Cir. 1999) (Emphasis added). Applicants respectfully submit that **inherency may not be established by probabilities or possibilities**. There mere fact that a certain thing **may** results from a given set of circumstances **is not sufficient** to establish inherency. (see *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1269, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

Applicants have provided data and a 1.132 Declaration (previously submitted) that demonstrates Applicants' invention does not "**necessarily**" flow from the teachings of Linford *et al.* As evidenced in the accompanying Declaration, attaching an organic layer to a silicon surface does not inherently result in a structure having improved electrical properties. In particular, the Declaration presents data showing that organic layers attached to a silicon surface actually do not result in the claimed

invention as suggested by the Examiner. Thus, Linford *et al.* cannot anticipate the claimed invention.

The Office Action alleges that the 1.132 Declaration provided February 14, 2006, did not provide detailed information regarding the nature of the data presented. In particular, the Office Action alleged it was not clear who acquired the data and when or what-type of silicon surface was used, whether lifetime decay refers to carrier lifetime, how the measurements were performed, or exactly how the samples were prepared. Applicants respectfully traverse the Examiner's interpretation of the requirements for a 1.132 Declaration and, in particular, Applicants' 1.132 Declaration.

The Declaration clearly indicates that the material was prepared according to Linford *et al.* and identifies reagents used (see, e.g., paragraph 4, lines 4-7 of the Declaration). The Examiner provides no support as to the requirement for demonstrating the "when or who" in a Declaration. Applicants are not aware of such "who and when" requirements for a demonstration that a particular reference does not teach an inherent feature, particularly when the Declaration states the sample was prepared according to Linford *et al.* and that such statements and data are believed to be true and are of an inventor's knowledge (see paragraph 5 of the Declaration). **Failure to give probative weight to the Declarations** (which here incorporate the exhibits) **constitutes reversible error**. *Ex Parte Ovshinsky*, 10 U.S. P.Q.2d 1075, 1077 (Bd. Pat. App. & Inter. 1989) (emphasis added). The Declaration states the "how" of the data. Furthermore, the "when and who" are not required elements for purposes of this 1.132 Declaration.

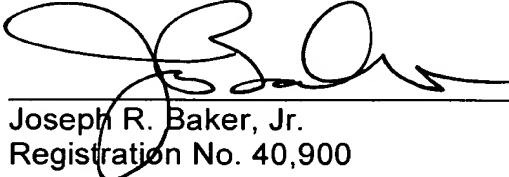
The Office Action also alleges that the Declaration was insufficient because there was no comparison data related to a substrate's electrical property in the absence of the organic layer. Applicants submit that such comparison data is irrelevant to the Linford *et al.* reference. What is required and demonstrated by the Declaration is that the *inherent "necessary" feature* relied upon by the Examiner does not flow from the teachings of Linford *et al.* Rather, the data demonstrate that adding an organic layer **does not necessarily result in improvement**, contrary to the Examiner's assertion. A comparison is not necessary.

In summary, the Office Action rejections over Linford *et al.* as inherently anticipating the pending claims is in error. Under the doctrine of inherence, the teachings of the cited references much necessarily give rise to the claimed invention. Applicants have demonstrated that the claimed invention does not necessarily flow from the teachings of Linford *et al.*

Respectfully submitted,

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